



Home	interFIRE VR Support	Training Calendar	Training Center	Resource Center	Message Board	Insurance Info
------	----------------------	-------------------	-----------------	-----------------	---------------	----------------

Search [GO!](#) [Get InterFIRE updates >>](#) [Click here for "Term of the Week"](#)

Breaking Legal Developments in Fire Investigation



Breaking Legal Developments

04-14-2006

Published by:
Peter A. Lynch, Esq.
of Cozen O'Connor
palynch@cozen.com
<http://www.cozen.com>

EXECUTIVE SUMMARY: This weekly newsletter covers:

- [Wisconsin Court Of Appeals Upholds Stray Voltage Verdict Against Utility](#)

(1) WISCONSIN COURT OF APPEALS UPHOLDS STRAY VOLTAGE VERDICT AGAINST UTILITY

In [George Muth v. Wisconsin Electric Power, No. 2004AP1487](#), (April 5, 2006), the Wisconsin Electric Power Company (WEPCO) appealed from a judgment awarding George G. and Kathy L. Muth economic damages of \$ 650,000, nuisance damages of \$ 200,000, and costs of \$ 257,289.96, for a total judgment of \$ 1,107,289.96. The Court of Appeals affirmed the judgment.

The Muths sued WEPCO on claims of negligence and nuisance, alleging that neutral current from WEPCO's electrical distribution system was flowing through their farm and causing damage to the health and productivity of their dairy herd. After a four-week trial, the jury returned a special verdict finding that WEPCO was negligent with respect to the maintenance or operation of its distribution facilities or the electric service provided to the Muth farm. The jury also found that WEPCO's negligence was a cause of damages to the Muths. In addition, the jury found that WEPCO distributed electricity in a manner that constituted a nuisance to the Muths and that this nuisance was a cause of damages sustained by the Muths. The trial court denied WEPCO's motions after verdict and sustained the jury's verdict. The Court of Appeals affirmed the verdict for the plaintiff.

WEPCO raised issues on appeal: (1) whether credible evidence supports the jury's finding that WEPCO negligently caused harm to the Muths' dairy herd..

The court discerned no basis to disturb the jury's finding that WEPCO was causally negligent in the maintenance or operation of its distribution facilities or the electric service provided to the Muth farm. Evidence at trial indicated that the Muths are part of a long-time dairy farming family. Between 1980 and mid-1992, they operated a dairy farm in West Bend, Wisconsin. Around June 1992, they moved their herd to their present farm. Evidence indicated that prior to and at the time of the move, they had a rolling herd average of 19,000 pounds of milk per cow, approximately 30% above the state average.

Testimony indicated that when they made the move, the Muths made an effort to maintain the same or similar facilities, equipment, and management practices, including keeping the same milking equipment, feeding system, bedding, and tunnel ventilation. They also kept the same professional consultants, including their veterinarian and nutritionist. However, soon after the move, they began experiencing significant problems with their herd, including decreased milk production, increased cell

counts indicating infection, breeding difficulties, and excessive illness and deaths. The cows also exhibited odd and belligerent behavior, including resisting entering the barn and stalls and not drinking properly.

The Muths' primary veterinarian, Dr. Gregory Ogi, testified concerning the superior quality of the Muths' herd management skills and practices. However, he also described the difference in general herd health between the two farms as being like "day and night." In 1996, after electrical consultants informed the Muths that they had stray voltage problems coming from the utility, Dr. Ogi and the Muths wrote to WEPCO regarding the problem and asked WEPCO to correct the stray voltage problems. Although WEPCO performed some testing and installed an isolator on the Muth farm at the Muths' expense, it took the position that no other action was necessary because the level of stray voltage was below one milliamper.

Gerald Bodman, a professional engineer and retired professor of agricultural engineering with over twenty-five years of experience in the areas of dairy farming and stray voltage, conducted an investigation on the Muth farm in June 2001. He concluded that the facilities and equipment were adequate and that the Muths were above average managers. He testified that their herd was adversely affected by electrical current from WEPCO's distribution system, and had been adversely affected by utility current since 1992.

Evidence also indicated that in December 2002, a neighbor of the Muths disconnected and removed a buried WEPCO cable from a field across the street from the Muth farm. The cable consisted of three individual bare concentric neutral cables (bcnc) bundled together. The bcnc exhibited evidence of mild corrosion when removed. Evidence indicated that the herd improved after the bcnc was removed, exhibiting significant increases in milk production and improvement in cow breeding and behavior. Bodman testified that the reduction in voltage variations after removal of the bcnc was a contributing factor in the improvement of the herd. Although WEPCO presented evidence to support its contention that other factors led to the improvement, the jury was entitled to accept Bodman's testimony.

In challenging the sufficiency of the evidence, WEPCO argued that it cannot be found negligent for failing to take corrective action because there were no defects in its electrical system and all stray voltage measurements were below the level of concern for dairy cows and the utility action level established by the Wisconsin Public Service Commission (PSC). This argument fails for multiple reasons.

As provided in Hoffmann, 2003 WI 64, 262 Wis. 2d 264, P14, 664 N.W.2d 55, a utility may be liable for negligence for damages caused by stray voltage even when no measurements exceed one milliamper. In addition, a utility may be liable for damages caused by nontraditional stray voltage, for which no level of concern has been established. Nontraditional stray voltage includes ground and earth currents.

It is true that in affirming the damages award against WEPCO in **Hoffmann**, the court relied upon evidence that nontraditional stray voltage resulting from WEPCO's deteriorated bcnc was a cause of damage to the Hoffmanns' dairy herd. However, nothing in the decision holds that evidence of a corroded bcnc or similar defect was a prerequisite to liability for negligence.

In any event, the record in this case provides evidence of both a stray voltage measurement in excess of one milliamper and defects in WEPCO's system and distribution. In December 1996, one of the Muths' electrical consultants made measurements that exceeded one milliamper in the Muth barn with all farm power turned off. In addition, Bodman estimated a voltage measurement made in 1994 by one of WEPCO's employees to be in excess of one milliamper.

Other evidence also supported a finding that corroded bcncs and substandard distribution voltage contributed to stray voltage on the Muth farm. Testimony was received from William English, an electrical engineer and retired public utility engineer specialist at the Michigan PSC in charge of stray voltage matters. He testified that the bcnc across the street from the Muth farm was installed in July

1981 in a farm field exposed to fertilizer and manure spread. Evidence indicated that in June 1981, WEPCO had stated in a policy that corrosion of bcncs was a valid concern, and corrosion-prone installation areas, including heavily fertilized farm areas, should be avoided. Evidence also indicated that WEPCO policy provided that the only reasonable alternative was to avoid the use of bcncs in such contaminated areas and use jacketed cable or overhead lines as alternatives.

Evidence indicated that bcncs of the type located in the vicinity of the Muth farm were known to suffer from premature corrosion and deterioration, leading to stray voltage and current problems. Although evidence indicated that the bcnc removed from across the street from the Muth farm was only mildly corroded, English testified that it was highly likely that other bcncs in the vicinity were corroded. In addition, evidence indicated that in response to the discovery of widespread corrosion of bcncs in WEPCO's system in the 1980s, WEPCO discontinued installation of them but did not replace existing ones, instead relying on testing of existing bcncs for corrosion, repairing and replacing corroded bcncs, and protecting existing bcncs from corrosion with cathodic protection.

Evidence at trial indicated that, except for testing the bcnc removed by the Muths' neighbor, WEPCO never tested, repaired, replaced or protected any of the other bcncs in the immediate vicinity of the Muth farm. English testified that as corrosion occurs, the ability of the cable to carry current is reduced, resulting in increased levels of neutral current straying from the cable and entering the earth. English and Bodman testified that bcncs in the vicinity of the Muth farm, including the one removed by the Muths' neighbor, were collectively contributing to the earth currents accessing the Muth farm. This conclusion was corroborated by evidence that milk production dropped and cow deaths rose on the Muth farm in 1999 when current was increased in the bcnc located across the street.

English also testified regarding the impact of the bcnc located across the street on the voltage at the outside waterer on the Muth farm. Testing showed that the voltage dropped by more than ninety percent after the bcnc was disconnected. English testified that this testing and previous testing done in 1999, showed that utility neutral current was coming off the bcnc and going through the Muth farm. Bodman testified that the December 2002 removal of the bcnc and the resulting reduction in voltage variations at the Muth farm contributed to the improvement in the Muth herd after 2002.

Based upon this evidence, the jury could reasonably find that WEPCO failed to exercise ordinary care by failing to follow its own policies regarding installing, testing, and protecting existing bcncs. It could reasonably find that WEPCO negligently failed to follow its policies in regard to the bcncs in the vicinity of the Muth farm and negligently failed to maintain its electrical system and that its negligence was a cause of the Muths' damages. Based upon the numerous complaints from the Muths to WEPCO regarding stray voltage problems, the jury could also conclude that WEPCO had notice of problems with its system and operation.

The evidence also provided other bases for a finding of negligence. Evidence indicated that the WEPCO employee who performed testing at the Muth farm in 1993 and 1994 failed to complete many of the recommended test procedures set forth in WEPCO's written policies for stray voltage investigations, including monitoring the highest point of voltage he found on the Muth farm.

In addition to opining that WEPCO was negligent for failing to mitigate utility neutral current accessing the Muth farm, Bodman and English were also critical of the distribution voltage of the distribution system serving the Muth farm. English testified that the distribution voltage of 4800 volts on WEPCO's system was lower than industry standards. Bodman also indicated that 4800 volts was uncommon and low. Both experts explained that distribution voltage was important because the higher the distribution voltage, the lower the amount of neutral current entering the earth and accessing the Muth farm. Bodman testified that increasing the distribution voltage is generally known to be a method of reducing stray voltage on dairy farms. Both men testified that increasing the distribution voltage on the feeder serving the Muth farm would significantly reduce the levels of stray voltage and earth currents on the Muth farm. Testimony was also presented that such an upgrade was feasible, as were other options for reducing voltages on the farm.

In its brief-in-chief and reply brief, WEPCO discusses at length the evidence in the record which could have supported a jury verdict finding that it was not negligent. However, as previously stated, the Court of Appeals must uphold a jury's verdict if any credible evidence supports it, particularly where it has received the approval of the trial court. Viewing the evidence in the light most favorable to the verdict, the Court of Appeals concluded that the jury could reasonably find that WEPCO was negligent for performing incomplete testing, failing to take corrective measures to reduce stray voltage and ground currents, and operating its distribution system at a voltage below industry standards. Based upon the totality of the evidence, the jury could also reasonably find that WEPCO's negligence was a cause of harm to the herd and damage to the Muths.

Mr. Lynch can be reached at Cozen and O'Connor, 501 West Broadway, Suite 1610, San Diego, California 92101, 800-782-3366 (voice), 619-234-7831 (fax), palynch@cozen.com (e-mail), <http://www.cozen.com>.

Please direct comments, suggestions, stories, and other items to the author by e-mail at palynch@cozen.com

[Home](#) | [InterFIRE VR Support](#) | [Training Calendar](#) | [Training Center](#) | [Resource Center](#) | [Message Board](#) | [Insurance Info.](#)
[interFIRE Web Site Partners](#)

Web Site Designed for 800 x 600 by [Stonehouse Media Incorporated](#) © Copyright © 2007 All Rights Reserved.